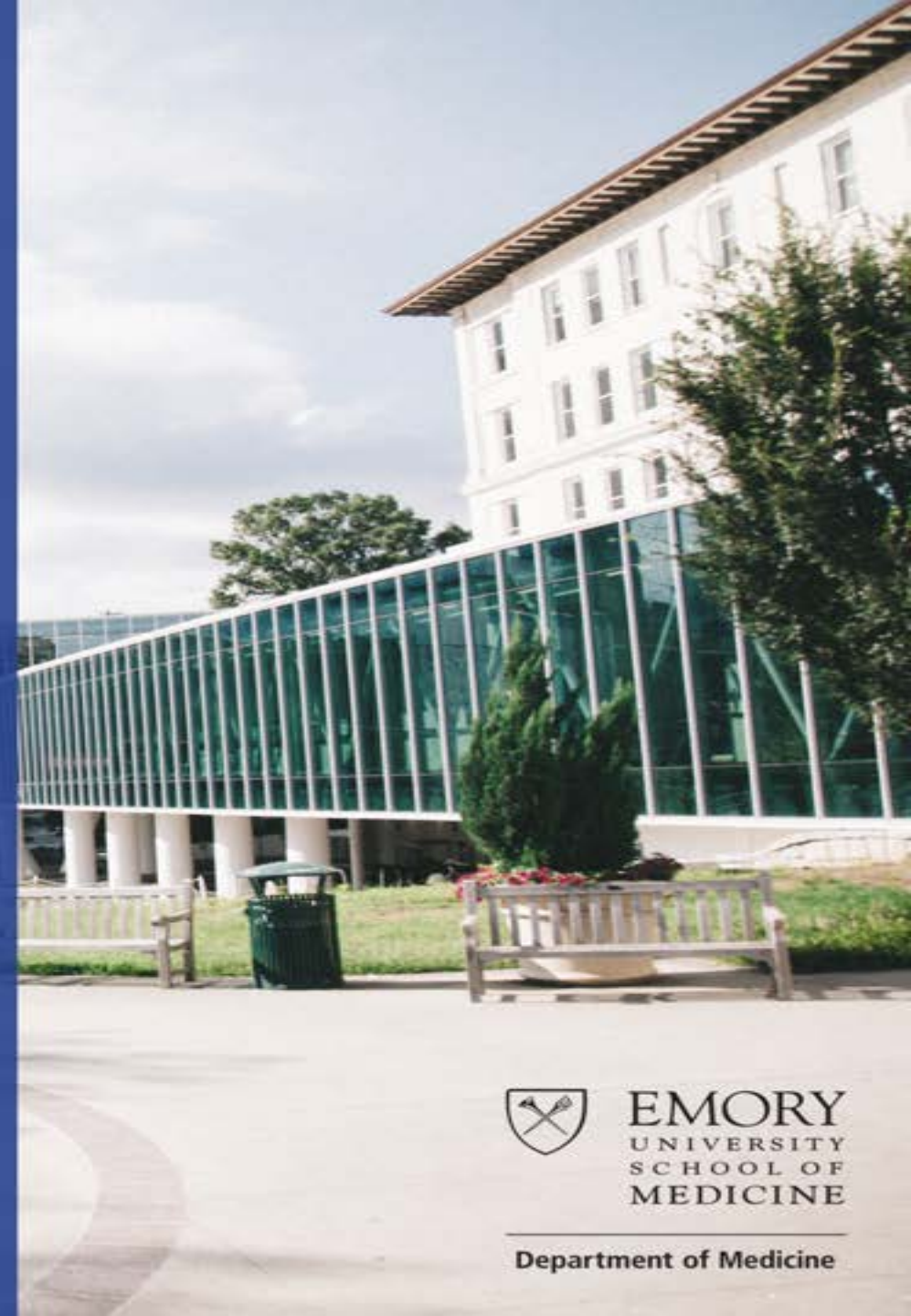


COVID-19 Vaccines: What You Need to Know

Zanthia Wiley, MD
Director of Antimicrobial Stewardship
Division of Infectious Diseases
Emory University Hospital Midtown
March 11, 2021



EMORY
UNIVERSITY
SCHOOL OF
MEDICINE

Department of Medicine

Objectives

COVID-19 – Where are we now?

Describe COVID-19 disparities among racial and ethnic minorities

Discuss COVID-19 vaccine basics and Answer FAQs

Coronavirus in the U.S.: Latest Map and Case Count

Updated March 10, 2021, 8:08 P.M. E.T.

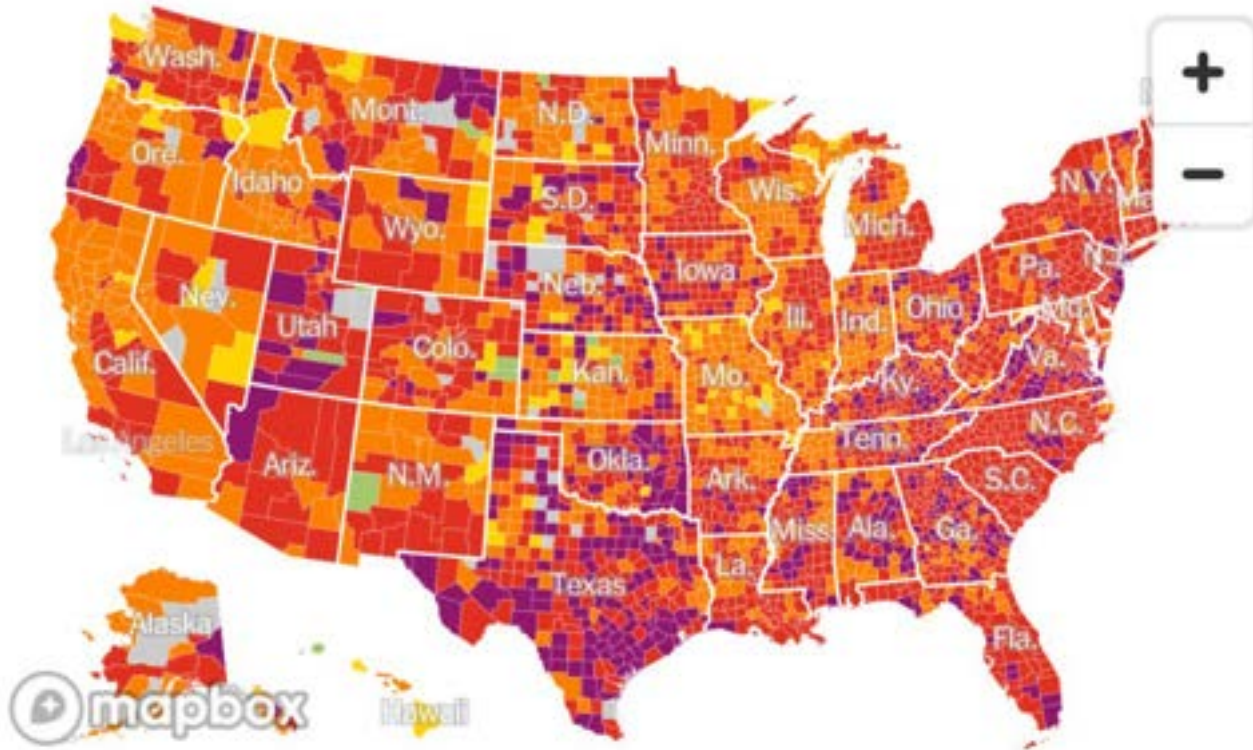


	TOTAL REPORTED	ON MARCH 9	14-DAY CHANGE
Cases	29.2 million+	55,832	-14% →
Deaths	528,692	1,885	-20% →
Hospitalized		42,262	-33% →

Day with reporting anomaly. Hospitalization data from the U.S. Department of Health and Human Services; 14-day change trends use 7-day averages.

The risk of getting Covid-19 is based on cases and test positivity.

LOW MEDIUM HIGH VERY HIGH EXTREMELY HIGH



Source: Risk level assessment by The New York Times and Resolve to Save Lives based on reported cases and test positivity data. [Read more below.](#)

Sept. 22, 2020



Dec. 21, 2020



March 9, 2021



“Mrs. Jones”



EMS is called for a 77 yof with HTN and asthma with several days of shortness of breath. O2 sats 84% on room air.

Diagnosis: COVID-19



(not actual patient)

The COVID Racial Data Tracker

[Racial Data Dashboard](#)

[About](#)

[Complete Dataset](#)

[Help Us Get Better Race and Ethnicity Data](#)

**COVID-19 is affecting
Black, Indigenous, Latinx,
and other people of color
the most.**

The COVID Racial Data Tracker is a collaboration between the COVID Tracking Project and the Boston University Center for Antiracist Research. Together, we're gathering the most complete and up-to-date race and ethnicity data on COVID-19 in the United States.



Júlia Ledur / COVID Tracking Project

COVID-19 Cases, Hospitalizations, and Deaths, by Race/Ethnicity

Rate ratios compared to White, Non-Hispanic persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
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Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity

Rate ratios compared to White, Non-Hispanic persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
Cases ¹	1.9x	0.7x	1.1x	1.3x
Hospitalization ²	3.7x	1.1x	2.9x	3.2x
Death ³	2.4x	1.0x	1.9x	2.3x

Race and ethnicity are risk markers for other underlying conditions that affect health, including socioeconomic status, access to health care, and exposure to the virus related to occupation, e.g., among frontline, essential, and critical infrastructure workers.

Health Equity Considerations and Racial and Ethnic Minority Groups



Long-standing systemic health and social inequities have put many people from racial and ethnic minority groups at increased risk of getting sick and dying from COVID-19. The term “racial and ethnic minority groups” includes people of color

MORE LIKELY TO:



NOT HAVE
ACCESS TO TESTING



LIVE IN
HIGH DENSITY



BE EXPOSED
TO POLLUTION



HAVE A PRE-EXISTING
CONDITION



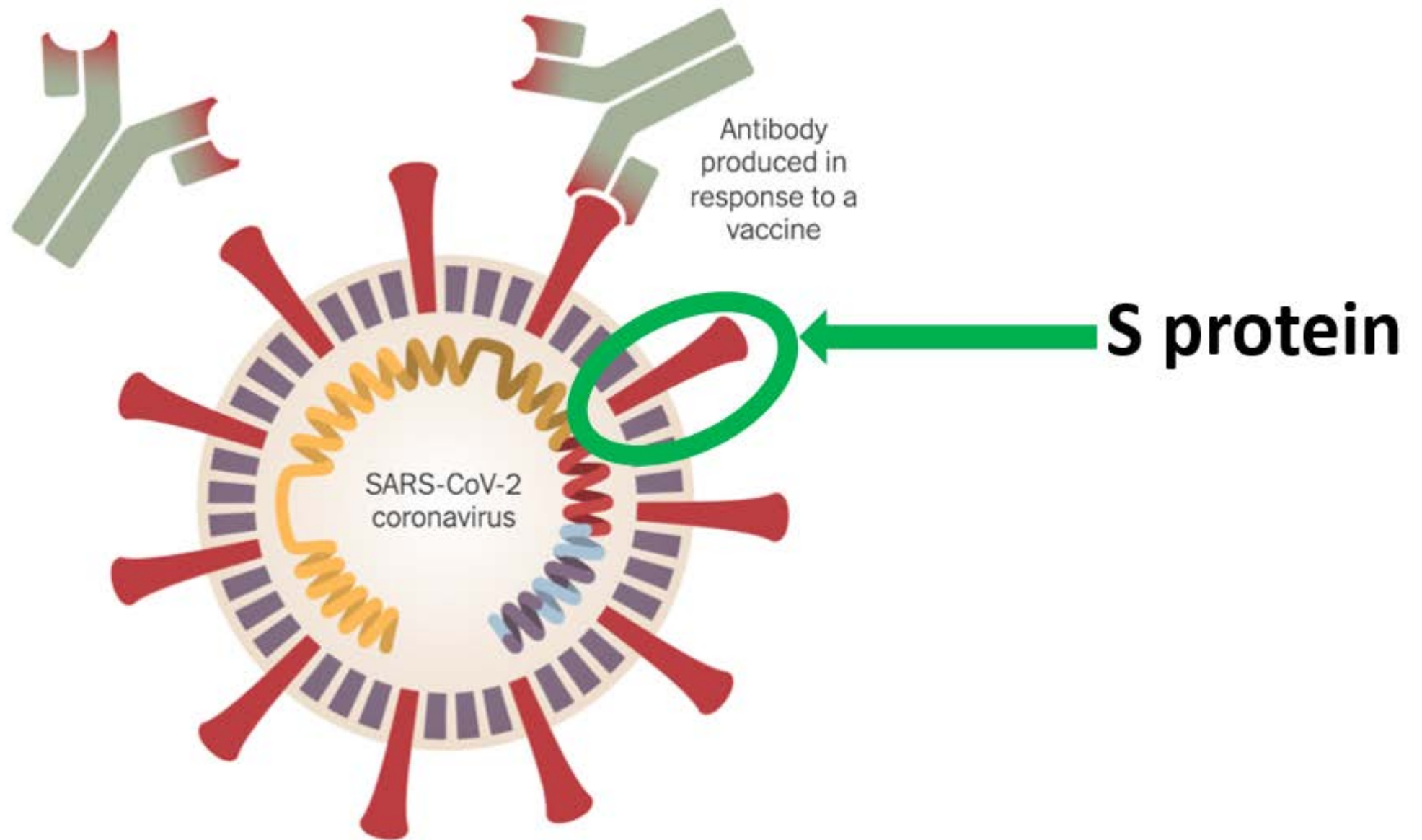
BE AN ESSENTIAL
WORKER

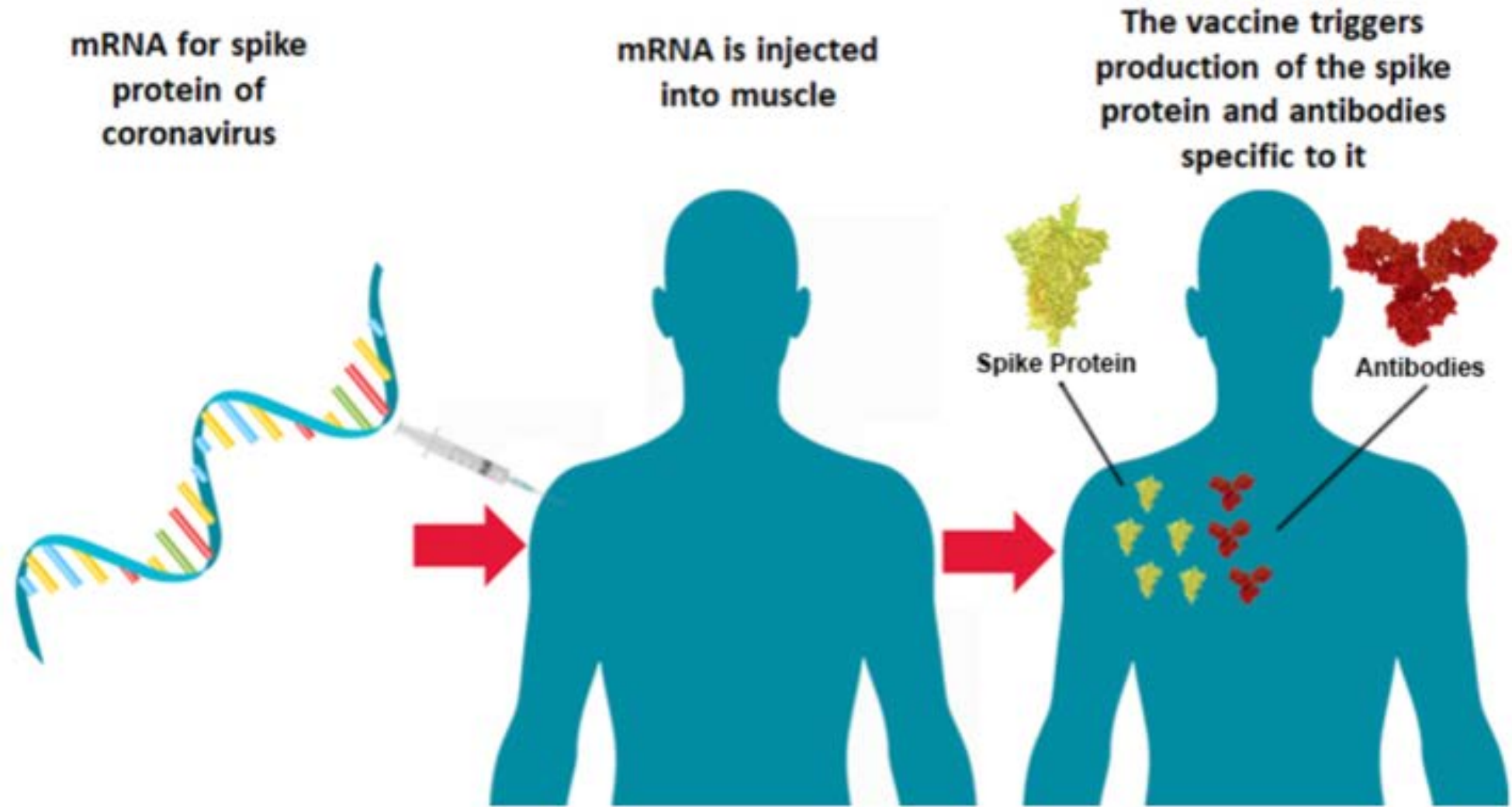


ON TOP OF

**A RACIAL BIAS
IN HEALTHCARE**

COVID-19 Vaccine: The Basics





Credit: NIH

**Two mRNA vaccines are available
(Pfizer or Moderna)**

One viral vector vaccine available (Johnson and Johnson)

How Viral Vector COVID-19 Vaccines Work

Understanding the virus that causes COVID-19.

Coronaviruses, like the one that causes COVID-19, are named for the crown-like spikes on their surface, called **spike proteins**. These **spike proteins** are ideal targets for vaccines.

What is a viral vector vaccine?

A viral vector vaccine uses a harmless version of a different virus, called a "vector," to deliver information to the body that helps it protect you.

How does the vaccine work?

The vaccine teaches your body how to make copies of the **spike proteins**. If you are exposed to the real virus later, your body will recognize it and know how to fight it off.



**What side effects
should you expect after
the COVID-19 vaccine?**

COVID vaccines are reactogenic AND safe

Adverse events

Reactogenicity

- Sore arm, erythema
- Myalgias/arthralgias
- Fatigue
- Headache
- Nausea/vomiting
- Fever

Safety

- Medically important event attributed to vaccination

Reactogenicity =
Your Immune System is
Working!

**Are COVID-19 Vaccines
Safe?**

How a new vaccine is developed, approved and manufactured

The Food and Drug Administration (FDA) sets rules for the three phases of clinical trials to ensure the safety of the volunteers. Researchers test vaccines with adults first.

PHASE 1

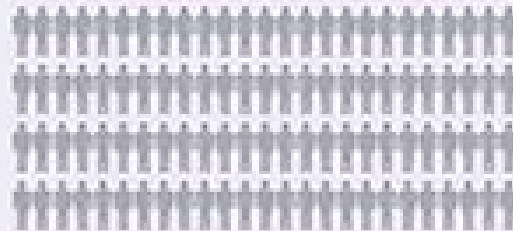


**20-100
healthy volunteers**



- Is this vaccine safe?
- Does this vaccine seem to work?
- Are there any serious side effects?
- How is the size of the dose related to side effects?

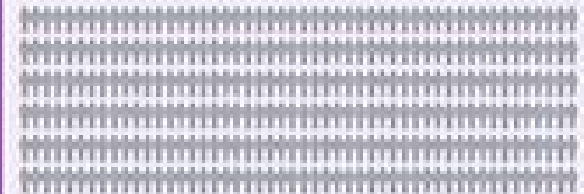
PHASE 2



**several hundred
volunteers**

- What are the most common short-term side effects?
- How are the volunteers' immune systems responding to the vaccine?

PHASE 3




**hundreds or thousands
of volunteers**

- How do people who get the vaccine and people who do not get the vaccine compare?
- Is the vaccine safe?
- Is the vaccine effective?
- What are the most common side effects?

FDA licenses the vaccine only if:

- It's safe and effective
- Benefits outweigh risks



Safety Is a Top Priority

The U.S. vaccine safety system ensures that all vaccines are as safe as possible. [Learn more.](#)

About VAERS

Report an Adverse Event

VAERS Data

Resources

Submit Follow-Up Information

Have you had a reaction following a vaccination?

1. Contact your healthcare provider.
2. [Report an Adverse Event](#) using the VAERS online form or the new downloadable PDF. **New!**

Important: If you are experiencing a medical emergency, seek immediate assistance from a healthcare provider or call 9-1-1. CDC and FDA do not provide individual medical treatment, advice, or diagnosis. If you need individual medical or health care advice, consult a qualified healthcare provider.

¿Ha tenido una reacción después de recibir una vacuna?

1. Contacte a su proveedor de salud.
2. [Reporte una reacción adversa](#) utilizando el formulario de VAERS en línea o la nueva versión PDF descargable. **Nuevo!**



What is VAERS?



Get vaccinated.
Get your smartphone.
Get started with v-safe.

Use your smartphone to tell CDC about any side effects after getting the COVID-19 vaccine. You'll also get reminders if you need a second vaccine dose.

V-safe is a smartphone-based tool that uses text messaging and web surveys to provide personalized health check-ins after you receive a COVID-19 vaccination. Through **v-safe**, you can quickly tell CDC if you have any side effects after getting the COVID-19 vaccine. Depending on your answers, someone from CDC may call to check on you and get more information. And **v-safe** will remind you to get your second COVID-19 vaccine dose if you need one.

Your participation in CDC's **v-safe** makes a difference — it helps keep COVID-19 vaccines safe.

On This Page

[Register](#)

[Complete a v-safe health check-in](#)

Other v-safe Resources

[Troubleshooting](#)

[Frequently Asked Questions about v-safe](#)

www.vaers.hhs.gov

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/vsafe.html>

**How common are severe
reactions (anaphylaxis) with
the COVID-19 vaccine?**

CDC and FDA scientists have evaluated reports from people who experienced a type of severe allergic reaction—anaphylaxis—after getting a COVID-19 vaccine. Anaphylaxis after COVID-19 vaccination is **rare** and occurred in approximately 2 to 5 people per million vaccinated in the United States based on events reported to VAERS. This kind of allergic reaction almost always occurs within 30 minutes after vaccination. Fortunately, vaccination providers have medicines available to effectively and immediately treat patients who experience anaphylaxis following vaccination. [Learn more about COVID-19 vaccines and allergic reactions.](#)

**If I have latex, food, pet,
environmental, medicine
allergies, is it safe to get
the COVID-19 vaccine?**


Yes

**Who should absolutely NOT
receive the COVID-19 vaccines
(Pfizer/Moderna/Johnson &
Johnson)?**

1. Severe or immediate allergic reaction to COVID-19 vaccine
2. Immediate allergic reaction to polyethylene glycol (PEG) or polysorbate

**What if I do not have a
doctor or health insurance?
Can I still get the COVID-19
vaccine?**

Cost is not an obstacle to getting vaccinated against COVID-19.

Vaccine doses purchased with U.S. taxpayer dollars will be given to the American people at no cost. However, vaccination providers may be able to charge administration fees for giving the shot. Vaccination providers can get this fee reimbursed by the patient's public or private insurance company or, for uninsured patients, by the [Health Resources and Services Administration's Provider Relief Fund](#)  .

**What if I already had
COVID-19 or I know that I
have antibodies?**

You are still eligible for the
COVID-19 vaccines and should
receive them.

**What are the benefits of
getting a COVID-19 vaccine?**

COVID-19 vaccination will help keep you from getting COVID-19

COVID-19 vaccination is a safer way to help build protection

COVID-19 vaccination will be an important tool to help stop the pandemic



Centers for Disease
Control and Prevention

CDC Newsroom

CDC Issues First Set of Guidelines on How Fully Vaccinated People Can Visit Safely with Others

Press Release

For Immediate Release: Monday,
March 8, 2021

Fully vaccinated people can:

- Visit with other fully vaccinated people indoors without wearing masks or physical distancing
- Visit with unvaccinated people from a single household who are at low risk for severe COVID-19 disease indoors without wearing masks or physical distancing
- Refrain from quarantine and testing following a known exposure if asymptomatic



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

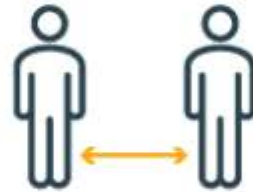
COVID-19

MENU >

CASES ARE RISING.
ACT NOW!



WEAR A MASK



STAY 6 FEET APART



AVOID CROWDS

YOUR HEALTH

Vaccines

Vaccine Information for You and Your Family

8 Things to Know about the U.S.
COVID-19 Vaccination Program



Rare Severe Allergic Reactions



Different COVID-19 Vaccines



When Vaccine Supply is Limited, Who
Gets Vaccinated First?



Ensuring Safety of COVID-19 Vaccines



What to Expect at Your COVID-19
Vaccination Visit



Ensuring COVID-19 Vaccines Work



Benefits of Getting a COVID-19 Vaccine



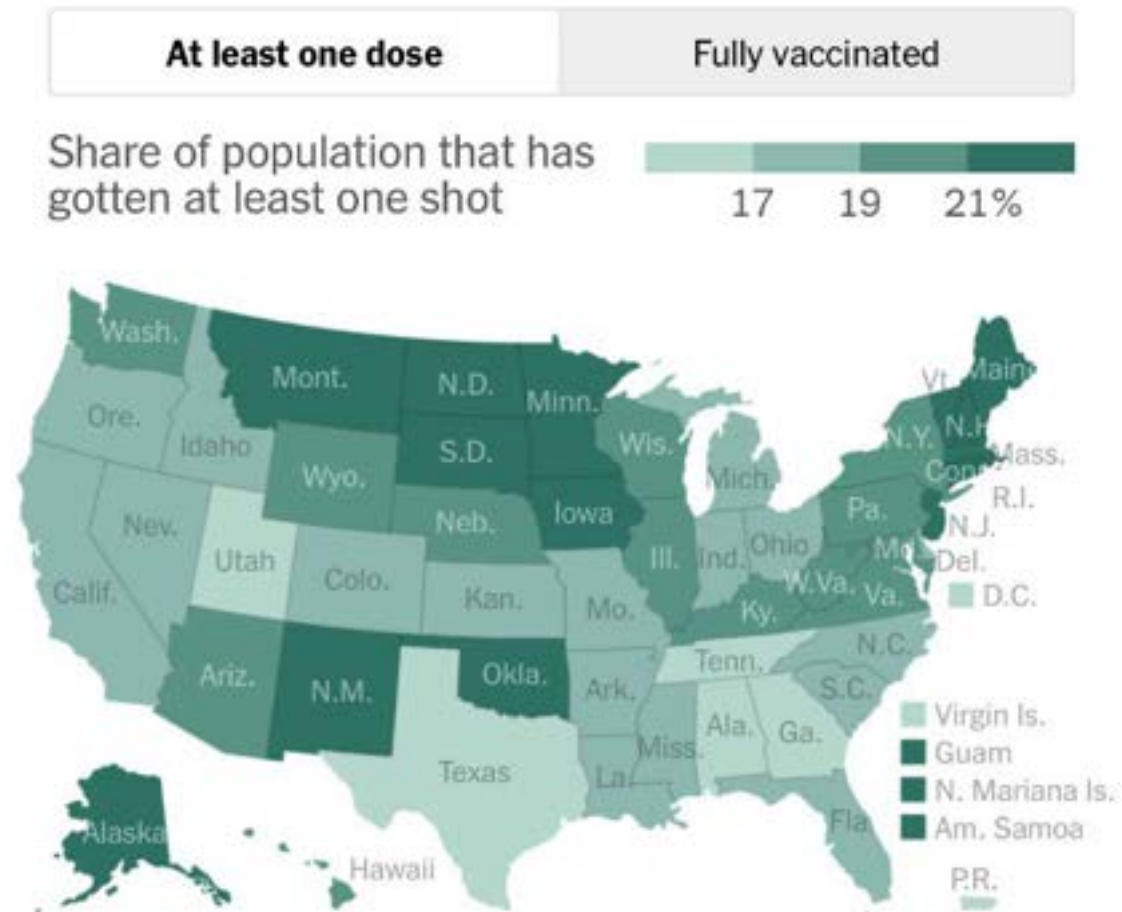
Frequently Asked Questions about
COVID-19 Vaccination



When will I have the
chance to get my COVID-
19 vaccine?

See How the Vaccine Rollout Is Going in Your State

Updated March 10, 2021



Source: Centers for Disease Control and Prevention

Name	Percent of people		Doses used
	Given at least one shot *	Fully vaccinated	
U.S. total*	19%	9.9%	75%
Palau	31%	18%	58%
American Samoa	31%	18%	55%
New Mexico	26%	15%	85%
Connecticut	26%	9.9%	82%
Alaska	26%	16%	69%
South Dakota	25%	13%	78%
Rhode Island	23%	9.2%	80%
North Dakota	23%	12%	87%
Northern Mariana Islands	23%	16%	48%
Massachusetts	23%	11%	85%
Maine	22%	12%	79%
New Hampshire	22%	9.4%	76%
Guam	21%	14%	69%
Vermont	21%	11%	74%
Oklahoma	21%	12%	71%
New Jersey	21%	11%	82%
Montana	21%	12%	78%

Iowa	21%	10%	81%
Minnesota	21%	11%	82%
Hawaii	21%	13%	73%
West Virginia	21%	13%	78%
Nebraska	21%	11%	78%
Wyoming	20%	12%	73%
Wisconsin	20%	11%	85%
Arizona	20%	11%	79%
Kentucky	20%	10%	77%
Virginia	20%	11%	83%
Maryland	19%	11%	76%
New York	19%	9.5%	74%
Illinois	19%	9.5%	76%
Washington	19%	11%	77%
Pennsylvania	19%	9.1%	73%
California	19%	8.8%	72%
Colorado	19%	11%	77%
Marshall Islands	19%	6.9%	42%
Oregon	19%	11%	77%
Michigan	18%	10%	75%

Ohio	18%	10%	75%
Nevada	18%	9.9%	77%
Delaware	18%	11%	72%
Florida	18%	9.8%	71%
Louisiana	18%	10%	73%
Indiana	18%	11%	78%
Mississippi	18%	9.7%	70%
South Carolina	18%	10%	78%
Idaho	17%	10%	79%
Missouri	17%	9.2%	77%
Arkansas	17%	9.5%	69%
Utah	17%	7.6%	83%
Texas	16%	8.8%	72%
Tennessee	16%	8.7%	70%
Alabama	16%	8.9%	66%
U.S. Virgin Islands	15%	7.4%	56%
Washington, D.C.	15%	7.8%	66%
Georgia	13%	8.6%	64%
Puerto Rico	13%	7.3%	50%
Micronesia	10%	6.1%	39%

What to Expect at Your Appointment to Get Vaccinated for COVID-19

Updated Dec. 19, 2020

Languages ▼

Print



It's important for everyone to continue using all the tools available to help stop this pandemic as we learn more about how COVID-19 vaccines work in real-world conditions. Cover your mouth and nose with a mask when around others, stay at least 6 feet away from others, avoid crowds, and wash your hands often.

Coronavirus Disease 2019 (COVID-19)



When You Get Vaccinated

- You should receive a vaccination card or printout that tells you what COVID-19 vaccine you received, the date you received it, and where you received it.
- You should receive a paper or electronic version of a fact sheet that tells you more about the specific COVID-19 vaccine you are being offered. Each authorized COVID-19 vaccine has its own fact sheet that contains information to help you understand the risks and benefits of receiving that specific vaccine.
- All people who get a COVID-19 vaccine should be monitored on-site. Learn more about [COVID-19 vaccines and rare severe allergic reactions](#).



Observation period following vaccination

Persons with a precaution to
vaccination or a history of anaphylaxis
(due to any cause)



30 minutes

All other persons

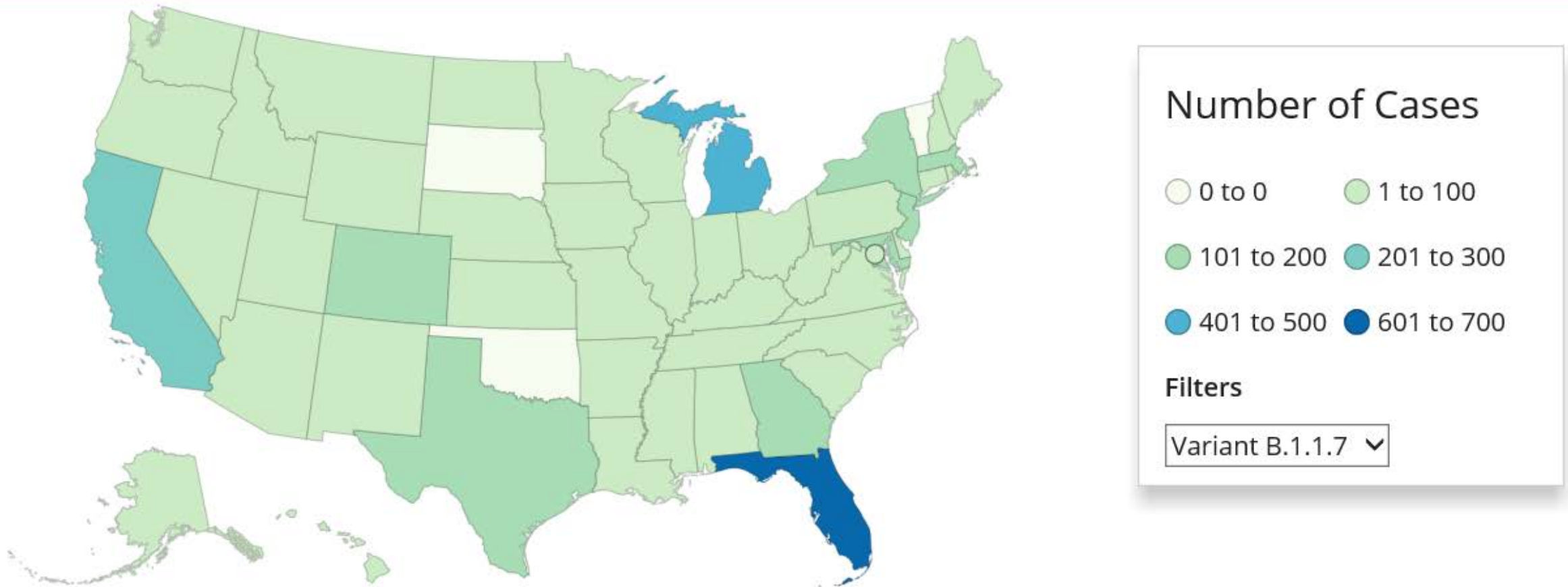


15 minutes



**How will the current COVID-19
variants affect the response to
the current vaccines?**

Emerging Variant Cases in the United States*†



So far, studies suggest that antibodies generated through vaccination with currently authorized vaccines recognize these variants. This is being closely investigated and more studies are underway.

What are the demographics
of those who have received
the COVID-19 vaccine thus
far?



Opinion

60 Black Health Experts Urge Black Americans to Get Vaccinated

Disinformation has pervaded social media and is an assault on our people.

By Thomas A. LaVeist and Georges C. Benjamin

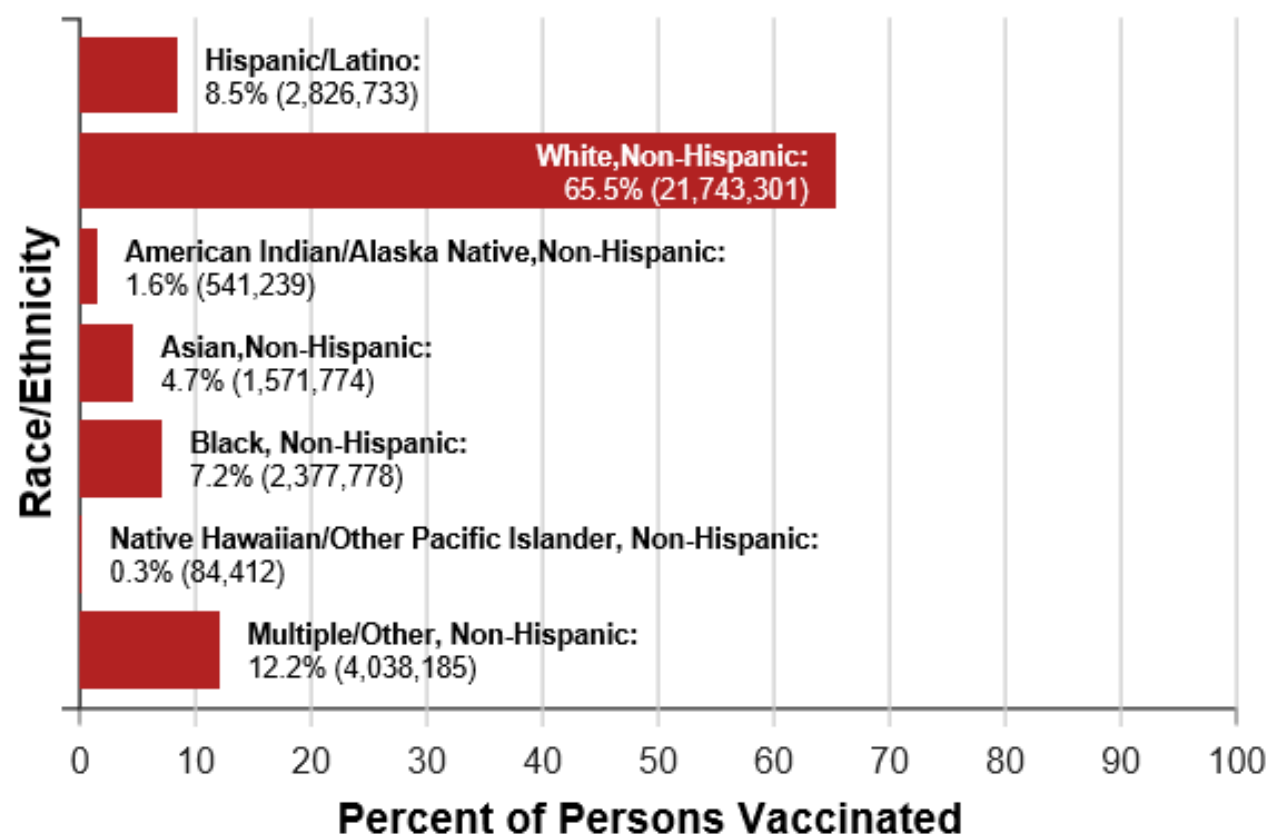
Dr. LaVeist is a medical sociologist and the dean of the School of Public Health and Tropical Medicine at Tulane University. Dr. Benjamin is a physician and the executive director of the American Public Health Association. They are among 60 Black health experts who have signed on to this Op-Ed.

Feb. 7, 2021



Yuki Iwamura/Associated Press

Data from 62,451,150 people with 1 or more doses administered. Race/Ethnicity was available for 33,183,422 (53.1%) people with 1 or more doses administered.



Back to “Mrs. Jones”



(not actual patient)



Loss in America



Gabriel Gianordoli



Thank you!

Zanthia Wiley, MD

zwiley@emory.edu